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*Amendment and Response**Serial No.: 09/600,432**Confirmation No.: 3387**Filed: October 2, 2000**For: PEPTIDES WITH $\beta 1$ INTEGRIN SUBUNIT DEPENDENT CELL ADHESION MODULATING ACTIVITY*Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

1-5. (canceled)

6. (previously presented) A peptide of no more than about six amino acid residues, said peptide having the sequence Pro-Arg-Ala-Arg-Ile-Tyr (SEQ ID NO:24), Arg-Ala-Arg-Ile-Tyr (SEQ ID NO:25), Ala-Arg-Ile-Tyr (SEQ ID NO:26), or Arg-Ile-Tyr, wherein said peptide retains a C-terminal Ile-Tyr dipeptide sequence.

7. (canceled)

8. (currently amended) The peptide of claim [[7]] 6 wherein said peptide inhibits $\beta 1$ integrin subunit dependent adhesion.

9. (currently amended) The peptide of claim [[7]] 8 wherein said peptide ~~modulates~~ inhibits $\alpha 4 \beta 1$ integrin dependent adhesion.

10. (currently amended) The peptide of claim [[9]] 8 wherein said peptide inhibits [[$\alpha 4 \beta 1$]] $\alpha 5 \beta 1$ integrin dependent cell adhesion.

11. (currently amended) The peptide of claim [[10]] 9 wherein said peptide inhibits $\alpha 4 \beta 1$ integrin dependent adhesion of Ramos cells to $\alpha 4 \beta 1$ integrin binding fibronectin fragments.

12-22. (canceled)

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23. (currently amended) A method for ~~[[modulating]]~~ inhibiting the $\beta 1$ integrin subunit dependent adhesion of cells to a substrate, the method comprising:

combining a peptide of claim 6 with a suspension of said cells to form a modified cell suspension; and

contacting the modified cell suspension with the substrate;

wherein the $\beta 1$ integrin subunit dependent adhesion of said cells to a substrate is inhibited.

24. (canceled)

25. (canceled)

26. (currently amended) The method of claim ~~[[25]]~~ 23 wherein the $\beta 1$ integrin is $\alpha 4 \beta 1$.

27. (currently amended) The method of claim ~~[[24]]~~ 23 wherein the $\beta 1$ integrin is ~~[[$\alpha 4 \beta 1$]]~~ $\alpha 5 \beta 1$.

28. (currently amended) A method of inhibiting $\alpha 4 \beta 1$ integrin dependent adhesion of cells to integrin-binding fibronectin fragments, the method comprising:

combining a peptide of claim 6 with the cells to form a modified cell suspension; and

contacting the modified cell suspension with the integrin-binding fibronectin fragments;

wherein $\alpha 4 \beta 1$ integrin dependent adhesion of the cells of the modified cell suspension to integrin-binding fibronectin fragments is inhibited.

29. (previously presented) A peptide consisting of the sequence Pro-Arg-Ala-Arg-Ile-Tyr (SEQ ID NO:24), Arg-Ala-Arg-Ile-Tyr (SEQ ID NO:25), Ala-Arg-Ile-Tyr (SEQ ID NO:26), or Arg-Ile-Tyr.

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30. (currently amended) A peptide of no more than about ten amino acid residues, said peptide having the sequence Pro-Arg-Ala-Arg-Ile-Tyr (SEQ ID NO:24), Arg-Ala-Arg-Ile-Tyr (SEQ ID NO:25), or Ala-Arg-Ile-Tyr (SEQ ID NO:26), ~~or Arg-Ile-Tyr,~~ and wherein said peptide retains a C-terminal Ile-Tyr dipeptide sequence.

31-36. (canceled)

37. (new) The peptide of claim 29 wherein said peptide inhibits β 1 integrin subunit dependent adhesion.

38. (new) The peptide of claim 37 wherein said peptide inhibits α 4 β 1 integrin dependent adhesion.

39. (new) The peptide of claim 37 wherein said peptide inhibits α 5 β 1 integrin dependent cell adhesion.

40. (new) The peptide of claim 38 wherein said peptide inhibits α 4 β 1 integrin dependent adhesion of Ramos cells to α 4 β 1 integrin binding fibronectin fragments.

41. (new) The peptide of claim 30 wherein said peptide inhibits β 1 integrin subunit dependent adhesion.

42. (new) The peptide of claim 41 wherein said peptide inhibits α 4 β 1 integrin dependent adhesion.

43. (new) The peptide of claim 41 wherein said peptide inhibits α 5 β 1 integrin dependent cell adhesion.

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44. (new) The peptide of claim 42 wherein said peptide inhibits $\alpha 4 \beta 1$ integrin dependent adhesion of Ramos cells to $\alpha 4 \beta 1$ integrin binding fibronectin fragments.

45. (new) A method for inhibiting the $\beta 1$ integrin subunit dependent adhesion of cells to a substrate, the method comprising:

combining a peptide of claim 29 with a suspension of said cells to form a modified cell suspension; and

contacting the modified cell suspension with the substrate;

wherein the $\beta 1$ integrin subunit dependent adhesion of said cells to a substrate is inhibited.

46. (new) The method of claim 45 wherein the $\beta 1$ integrin is $\alpha 4 \beta 1$.

47. (new) The method of claim 45 wherein the $\beta 1$ integrin is $\alpha 5 \beta 1$.

48. (new) A method of inhibiting $\alpha 4 \beta 1$ integrin dependent adhesion of cells to integrin-binding fibronectin fragments, the method comprising:

combining a peptide of claim 29 with the cells to form a modified cell suspension; and

contacting the modified cell suspension with the integrin-binding fibronectin fragments;

wherein $\alpha 4 \beta 1$ integrin dependent adhesion of the cells of the modified cell suspension to integrin-binding fibronectin fragments is inhibited.

49. (new) A method for inhibiting the $\beta 1$ integrin subunit dependent adhesion of cells to a substrate, the method comprising:

combining a peptide of claim 30 with a suspension of said cells to form a modified cell suspension; and

contacting the modified cell suspension with the substrate;

wherein the $\beta 1$ integrin subunit dependent adhesion of said cells to a substrate is inhibited.

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50. (new) The method of claim 49 wherein the β 1 integrin is α 4 β 1.
51. (new) The method of claim 49 wherein the β 1 integrin is α 5 β 1.
52. (new) A method of inhibiting α 4 β 1 integrin dependent adhesion of cells to integrin-binding fibronectin fragments, the method comprising:
combining a peptide of claim 30 with the cells to form a modified cell suspension; and
contacting the modified cell suspension with the integrin-binding fibronectin fragments;
wherein α 4 β 1 integrin dependent adhesion of the cells of the modified cell suspension to integrin-binding fibronectin fragments is inhibited.